

## CLAIMS

I claim:

1. A gravity feed brining system for a water conditioning system having a brine storage tank for holding a quantity of brine solution, a pressure vessel and quantity of regenerable treatment media, comprising:
  - a valved manifold means for directing water flow through the water conditioning system, said valved manifold means connected in fluid communication to the brine storage tank and the pressure vessel;
  - a programmable processor electrically connected to said valved manifold means;
  - a sensor connected to said valved manifold means in fluid communication therewith;
  - a drain valve connected to the pressure vessel in fluid communication therewith and said drain valve is electrically connected to said programmable processor; and
  - the brine storage tank is positioned above the pressure vessel.
2. The gravity feed brining system of claim 1, wherein said programmable processor is programmed to control actuation of said valved manifold means.
3. The gravity feed brining system of claim 1, wherein said sensor is a flow meter and is electrically connected to said programmable processor for measuring water usage.
4. A gravity feed brining system and a water conditioning system, comprising:
  - a brine storage tank for holding a quantity of brine solution, said brine storage tank having a connection port;
  - a pressure vessel having a drain port;

a media cell for holding a quantity of treatment media, said media cell disposed within said pressure vessel;

a valved manifold means for directing the flow of water through the water conditioning system, said valve manifold means connected to and in fluid communication with said pressure vessel, said brine storage tank and said media cell;

a programmable processor electrically connected to said valved manifold means;

a drain valve connected to the drain port of said pressure vessel;

a sensor connected to said valved manifold means in fluid communication therewith; and

said brine storage tank is positioned above said pressure vessel.

5. The gravity feed brining system and water conditioning system of claim 4, wherein said sensor is a flow meter connected in fluid communication to said valved manifold means and electrically connected to said programmable processor.

6. The gravity feed brining system and water conditioning system of claim 4, wherein said valved manifold means comprising:

a fluid supply connection;

a fluid service connection;

a bypass passage in fluid communication with the fluid supply connection and the fluid service connection and extending therebetween;

a service passage in fluid communication with the fluid supply connection and the fluid service connection and extending therebetween;

a distribution block having a first port, a second port, a third port and a fourth port, said distribution block in fluid communication with the service passage and connected thereto intermediate its ends at the forth and second ports;

a first valve in fluid communication with said service passage and positioned in-line thereto between said distribution block and said fluid supply connection;

a second valve in fluid communication with said bypass passage and positioned in-line thereto between said fluid supply connection and said fluid service connection;

a third valve in fluid communication with said service passage and positioned in-line thereto between said fluid service connection and said distribution block;

said first valve, said second valve and said third valve electrically connected to said programmable processor; and

a check valve in fluid communication with the first port of said distribution block and the connection port of said brine storage tank.

7. The gravity feed brining system and water conditioning system of claim 4, further comprising:

a supply valve connected intermediate to a source of supply water and said brine storage tank.

8. The gravity feed brining system and water conditioning system of claim 7, wherein the source of supply water is water that has been treated by the water conditioning system.

9. The gravity feed brining system and water conditioning system of claim 8, wherein said brine storage tank is closed to the atmosphere.

10. The gravity feed brining system and water conditioning system of claim 4, further comprising:

at least two media trays each for holding a quantity of treatment media, said at least two media trays are orientated horizontally and stacked vertically in a spaced relationship within said media cell.

11. The gravity feed brining system and water conditioning system of claim 10, wherein said at least two media trays contain a quantity of different treatment media.

12. The gravity feed brining system and water condition system of claim 4, wherein said sensor is a water quality sensor connected in fluid communication to said valved manifold means and electrically connected to said programmable processor.

13. The gravity feed brining system and water condition system of claim 4, further comprising a mechanical water filter connected in fluid communication to said valved manifold means.

14. The gravity feed brining system and water conditioning system of claim 4, further comprising an air injector connected in fluid communication with said valved manifold means.

15. The gravity feed brining system and water conditioning system of claim 4, wherein said first valve, said second valve, said third valve and said drain valve are electrically operated solenoid valves.

16. The gravity feed brining system and water conditioning system of claim 4, wherein said brine storage tank is open to the atmosphere.

17. The gravity feed brining system and water conditioning system of claim 16, further comprising:

an overflow drain connected to said brine storage tank.

18. The gravity feed brining system and water conditioning system of claim 17, further comprising:

a water flow sensor connected in fluid communication with said overflow drain, said water flow sensor connected to said programmable processor.

19. A gravity feed brining system and water conditioning system comprising:

a brine storage tank for holding a quantity of brine solution, said brine storage tank having a connection port;

a pressure vessel having a drain port;

a media cell for holding a quantity of treatment media, said media cell disposed within said pressure vessel;

at least two media trays each for hold a quantity of treatment media, said at least two media trays are orientated horizontally and stacked vertically in a spaced relationship within said media cell;

a supply valve connected intermediate to a source of supply water and said brine storage tank;

a valved manifold means for directing the flow of water through the water conditioning system, said valve manifold means connected to and in fluid communication with said pressure vessel, said brine storage tank and said media cell;

a programmable processor electrically connected to said valved manifold means;

a drain valve connected to the drain port of said pressure vessel; and

said brine storage tank is positioned above said pressure vessel.